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This is UNEVALUATED Information

General Outline1. Location

The Sup'ung Hydro-Electric Power Plant is located at XE 6679, (Sup'ung-dong, Sup'ung-myŏn, Sakchu-gun, P'yŏngan-namdo) (Pre-RO)¹.

2. Major InstallationsA) Sup'ung Dam (See Cross-Sectional Drawing)

This ferro-concrete dam, located at XE 6680, is 999 meters long, approximately 120 meters high, and approximately ten (10) meters wide at the top. The cushion or front of this dam is 75 degrees, while the upstream angle is 90 degrees.² Extending through the entire length of the dam, are three (3) inspection galleries, approximately four (4) meters wide and two (2) meters high, and approximately 20 meters apart vertically. (These inspection galleries are for checking cracks in the structure of the dam. Seven (7) water control points, which regulate the water supply to the turbines inside the generator building, are installed at intervals of 14 meters (approximate) on the top left side of (Korean side) of the dam. These water control points are equipped with cement concrete buildings, each approximately three (3) meters long, wide, and high, with a wooden door. Iron-gate spillways, each approximately seven (7) meters long and four (4) meters wide, are installed side by side along the (Manchurian side) (approximately 700⁴ meters long) top right side of the dam. Usually, water flows through these spillways. When the water pressure is low, however, the spillways are shut, so as to increase the water reserve and, consequently, the water pressure. Electrical devices are used to open and close these iron water-gates.

B) Distribution of Power and Power Distribution Facilities

The generator building is located at XE 664798, right below the water control points. There were originally seven (7)⁵ generators in this generator building. With three (3) of them having been shipped out by the Soviet forces, however, there were only four (4) generators left in this building as of the summer of 1947. Hanging from the ceiling of this generator building, there are two (2) 500-ton cranes, which are operated electrically, to move generators. A power distribution station is located approximately 20 - 30 meters southwest of the generator building.

C) Reservoir

On the average, the water depth of this reservoir is approximately 90 meters deep.⁶

D) Overflow Spillway

This spillway, for regulating the water stock in the reservoir, is located at XE 668820, (Pei-chieh-tzu Kou, K'uan-tien Hsien, An-tung Sheng). This water-gate is opened in case there is an excessive water reserve or when there is some work to be done on the dam. Through this water-gate, the water flows down a stream, via XE 633798, (K'uan-tien Hsien, An-tung Sheng), and finally to go back into the Yalu river.

E) Log Chute

This tunnel, located at the right end of the dam at XE 663804, is used as a passage way for log rafts. The water-gate of this log chute is opened and closed electrically.

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Evacuated or Bombed Out Facilities3. Removal by the Soviet Union

The Soviet Union had shipped out three (3) generators by 1947, and only four (4) generators were in operation as of 1951. During the period of January - May 1955, there were only two (2) generators left.⁷

4. Bomb Damage

The Sup'ung Hydro-Electric Power Plant was heavily bombed in the spring of 1953. Following are the status of damages inflicted at that time:

A) Dam

This bombing was not aimed at destroying the whole dam.⁸ Approximately 20 - 30 bombs hit the central part of the cushion of the dam, and two (2) bombs hit the top of the dam. The bomb craters, left on the dam as a result of this bombing, were each approximately five (5) meters in diameter and 1 - 2 meters deep. To the dam as a whole, however, these were nothing but minor damages.⁹

B) Generator Building

This generator building received the heaviest concentration of bombing in the spring of 1953. The object of this bombing was to demolish the structure of the generator building, generators, and turbines. As a result of the bombing, approximately three fourths of the roof of this building was destroyed, and one half of the building structure was demolished. Only a few bombs, however, penetrated the roof and exploded inside the building, thus causing only slight damage to one 100,000 KW transformer. Generators and turbines were covered with sand at that time. And the above transformer was also hidden by camouflage.¹⁰

C) Power Distribution House

This building did not suffer much bombing, thus it sustained few damages.

5. War-Time Status of Power Production

During the war, two (2) generators were in operation, maintaining an average production rate of 200,000 KW. Power production was in a state of confusion for nine (9) months following the large-scale bombing in the spring of 1953. One (1) generator was back in operation soon after the bombing.¹¹

Rehabilitation & Reinforcement Work Plan6. Scale of Work Plan

Work on the Sup'ung-Electric Power Plant is included in the People's Economic Three-Year Program (1954 - 1956), and it is to be also included in the next People's Economic Five-Year Program. This is the largest and the costliest of all rehabilitation projects undertaken in North Korea. A sum of 1.8 billion Wŏn of the one (1) billion-rouble aid fund from the Soviet Union, is allocated for this reconstruction work, to be spent during the three (3) years of the present economic program. The major items of the current reconstruction project are 1) rehabilitation of generation and distribution facilities, 2) dam reinforcement, and 3) installation of 100,000 KW generators. More detailed description of these tasks given below:

7. Rehabilitation of Generation & Distribution Facilities

The object of this task is to completely rehabilitate the generator building, power distribution station, generators, and their accessory equipment, as well as to install a 100,000 KW Russian generator and incidental equipment.

8. Dam Reinforcement Work Plan ¹²

The object of this work is to fill up the hollows (as a result of water pressure) in the dam, and to add to the thickness of the dam. That is, the dam is to be thickened by giving it an addition layer of ferro-concrete, to such an extent that the cushion angle is decreased to 45 degrees¹³ from the original 75 degrees. (See cross-sectional drawing). This task requires a tremendous amount of cement and labor. The work load of this reinforcement project constitutes approximately 80 percent of the total rehabilitation of the Sup'ung Hydro-Electric Power Plant. During the course of this reinforcement work, the water of the reservoir will not be let out by the dam, but it will be let out through the overflow spillway located in Chinese territory. (See drawing of the Sup'ung Power Plant). Belt conveyor facilities to transport the large quantity of cement required for this job will also be installed. This is one of the basic works needed for the reinforcement work. Underground belt conveyors used by the Japanese at the time of the construction of this power plant are now to be rehabilitated. (See the drawing of the Sup'ung Power Plant).

9. Plan to Install New Generators

Three (3) 100,000 KW Russian generators are to be newly installed, so as to increase the generation capacity to 600,000 kilowatts.

Present Status of the Work

10. Rehabilitation of Generation and Distribution Facilities

A) Generator Building

The rehabilitation of this building was started right after the armistice, and it had been completed prior to 10 May 1955. (It is not known exactly when the work on this building was completed.) This one-story ferro-concrete building, with gray cement walls and a cement roof, is approximately 150 meters long, 30 meters wide, and eight (8) meters high. The windows of this building are so arranged that the building appears to be a two-story building, from the exterior.

B) Power Distribution Station Building

The work on this building was also started immediately after the armistice, and it too was completed prior to 10 May 1955. This is two-story ferro-concrete building, approximately 40 meters long, eight (8) meters wide, and six (6) meters high, with marble-lined interior walls.

C) Generating Equipment

Rehabilitation work on generating facilities such as generators and turbines were also started right after the armistice. As of 1955, two (2) 100,000 KW generators (60 cycles) and two (2) cranes were in operation. Assembling work on a 100,000 KW generator was completed on 15 May 1955. With its test run having been made on or about 20 May 1955, this generator was to start generating as of 1 October 1955.¹⁴ The 100,000 KW [] transformer indicated on the attached plane drawing are each approximately seven (7) meters high and nine (9) meters in diameter at the base. They are six (6) meters apart.

25X1

D) Power Distribution Facilities

All facilities required for distributing power, such as switchboards, poles, and wires had been completely rehabilitated as of 10 May 1955.

11. Dam Reinforcement

There are three (3) different phases in this dam reinforcement project. They are; 1) rehabilitation of underground conveyor facilities to transport cement, gravel, and other materials from the railroad unloading point to the cement mixing area; 2) installation of aerial conveyor facilities to transport mixed cement materials from the mixing point to the dam work site; and 3) the work of increasing the thickness of the dam. The work on the underground conveyor facilities had been completed as of 10 May 1955, and the work on the aerial conveyor facilities was to be completed by the end of 1955. The actual reinforcement of the dam is to start in 1956. Following are the specification of the already completed work on the underground conveyor facilities:

- A) This was actually a rehabilitation job of underground conveyor facilities used by the Japanese at the time this power plant was established. The 15th Battalion,¹⁶ (583rd Army Unit, Supreme Headquarters, People's Armed Forces) undertook this rehabilitation work, and finished it during the period of 1 January - 10 May 1955.
- B) This belt conveyor system is established within a curved cement tunnel, approximately 400 meters long, five (5) meters wide, and three (3) meters high, extending from XE 663794 (a railroad track runs by this point) to XE 665795 (the future cement mixing ground).
- C) Belt conveyors are motor-powered. Rubber strips used in making belts are each approximately 1.5 meters wide and two (2) centimeters thick. One (1) conveyor is approximately 50 - 150 meters long.¹⁷ Several such conveyors make up the conveyor facilities. Cement and gravel required for the reinforcement work are transported automatically by this conveyor from the railroad unloading point to the cement mixing ground.

12. Installation of New 100,000 KW Generators

This work has not yet been started, but is to be started in 1956. Three (3) Russian 50 cycle generators will be installed. When these generators are installed, the maximum production capacity of the Sup'ung Hydro-Electric Power Station will reach 600,000 kilowatts. The scheduled date of the completion of this work is unknown.

Conclusion

Due to dismantling by the Soviet forces and damages caused by bombings, the Sup'ung Hydro-Electric Power Plant was producing only 200,000 kilowatts right after the armistice. Prior to 1955, the power plant had already recovered from the destruction wrought by the bombings, and a 100,000 KW Soviet generator was installed in May 1955. Three (3) new 100,000 KW Russian generators are to be installed in 1956, to attain the production capacity of 600,000 kilowatts. In the meantime, the reinforcement of the dam is progressing. The work on underground conveyor facilities, to transport the enormous amount of materials required for this work from the railroad unloading point to the cement mixing point, was completed on 10 May 1955. Now only the work on the aerial conveyor facilities and the actual reinforcement work of the dam remain to be done.

Guide to Cross-Sectional Drawing

- 1. Concrete dam
 - a. Inspection gallery

2. Planned cement layer
3. Water in the reservoir
4. Ground
5. Underground base of dam
6. Rock

Guide to the Frontal View Drawing

1. Generator building
 - a. Transformer
2. Power distribution station
3. Concrete dam
4. Water control point
5. Spillway
6. Underground belt conveyor
7. Cement mixing point (to be established)
8. Belt conveyor (to be established)
9. Log chute

Guide to Area Drawing

1. Dam
2. Generator building
3. Overflow spillway
4. Log chute
5. Underground belt conveyor
6. Juncture point of the overflow spillway water route and the Yalu river.

1. Comment: Sup'ung-dong, on the Korean side edge of the Yalu river, is located approximately 36 miles northeast of Sinuiju and approximately 70 miles northwest of Sakchu. Most of the residents of this village are engaged in work related to the Sup'ung Power Plant. This village (Tong) has probably been renamed Sup'ung-gu (Sup'ung-District) as a result of the reorganization of administrative district.

2. Comment: According to available information, this dam is 900 meters *long*, *139 meters* high, a little less than eight (8) meters wide at the top, and 123 meters wide (maximum) at the base. Its left base angle is approximately 55 degrees. Thus there is a wide difference in measurements between this data and that given by this Source.

3. The exact name of this establishment is unknown. It shall be called the water control point hereinafter.

4. Comment: According to available information, this is 390 meters long, and there are 26 water-gates, each approximately 12 meters wide. there are 100 water-gates, each seven (7) meters wide.

25X1

25X1

6. Comment: Accordint to available information, this reservoir is approximately 128 square miles in area. This reservoir is 93 meters deep at the lowest point, showing a difference of 30 meters according to seasons.

7. Comment: According to reliable available information, the Soviet Union shipped out generators No. 3 and No. 4, and turbines No. 3, 4, and 5. The four (4) generators in operation [redacted] are believed to be generators No. 1, 2, 3, and 4. The two (2) generators remaining at the power plant in 1955 were No. 1 and 2. [redacted]

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25X125X1
25X1

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12. Source Comment: This dam reinforcement work is known as the "Eiple" (phonetic) work. The word "eiple" may have been derived from the Russian word, "ubo" (phonetic) meaning "reinforcing".

13. Comment: As was explained in Comment No. 2, the cushion angle of this dam is now approximately 55 degrees. [redacted]

25X1
25X1

14. Comment: These are No. 1 and No. 3 generators. At the time of the construction of this power plant, the generators were numbered No. 1, No. 2 and so on, starting with the one located most closely to the Korean side. But the generators indicated on the plane drawing attached to this report are numbered from the opposite direction.

15. Comment: According to available information, the number of the Russian generator is six (6). An article of the Labor Press (Nodong Sinmun) confirms this. The Labor News dated 26 May 1955 announced that assembling work of No. 6 generator of the Sup'ung Power Plant had been completed. The same newspaper dated 11 July 1955, carried an article describing a ceremony marking the beginning of the operation of the No. 6 generator.

16.

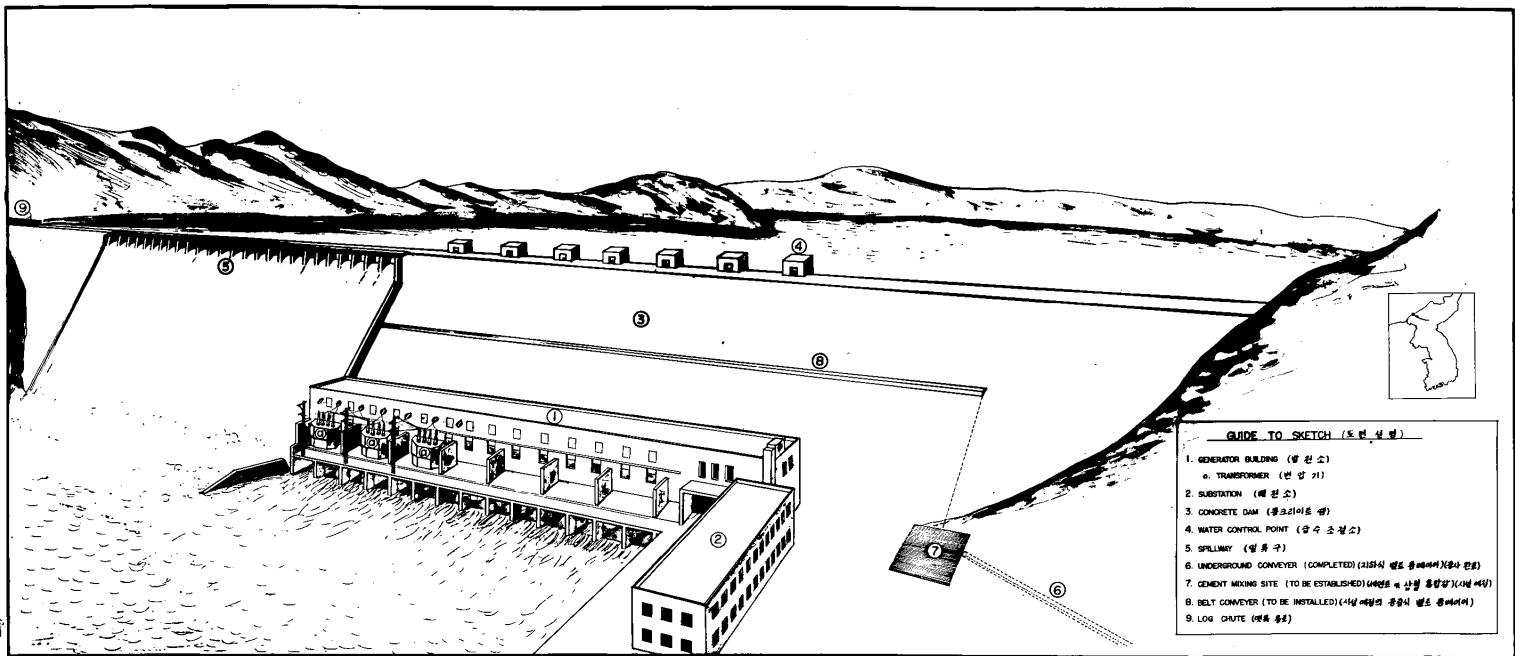
25X1

17. Comment: [redacted]

25X1
25X1

[redacted] It appears that the total length of the belt conveyor is 500 meters, while its underground portion is 400 meters.

(2)



General Outline

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1. Location

The Sup'ung Hydro-Electric Power Plant is located at XE 6679, (Sup'ung-dong, Sup'ung-myōn, Sakchu-gun, P'yōngan-namdo) (Pre-RO)¹.

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This ferro-concrete dam, located at XE 6680, is 999 meters long, approximately 120 meters high, and approximately ten (10) meters wide at the top. The cushion or front of this dam is 75 degrees, while the upstream angle is 90 degrees.² Extending through the entire length of the dam, are three (3) inspection galleries, approximately four (4) meters wide and two (2) meters high, and approximately 20 meters apart vertically. (These inspection galleries are for checking cracks in the structure of the dam. Seven (7) water control points, which regulate the water supply to the turbines inside the generator building, are installed at intervals of 14 meters (approximate) on the top left side of (Korean side) of the dam. These water control points are equipped with cement concrete buildings, each approximately three (3) meters long, wide, and high, with a wooden door. Iron-gate spillways, each approximately seven (7) meters long and four (4) meters wide, are installed side by side along the (Manchurian side) (approximately 700⁴ meters long) top right side of the dam. Usually, water flows through these spillways. When the water pressure is low, however, the spillways are shut, so as to increase the water reserve and, consequently, the water pressure. Electrical devices are used to open and close these iron water-gates.

B) Distribution of Power and Power Distribution Facilities

The generator building is located at XE 664798, right below the water control points. There were originally seven (7)⁵ generators in this generator building. With three (3) of them having been shipped out by the Soviet forces, however, there were only four (4) generators left in this building as of the summer of 1947. Hanging from the ceiling of this generator building, there are two (2) 500-ton cranes, which are operated electrically, to move generators. A power distribution station is located approximately 20 - 30 meters southwest of the generator building.

C) Reservoir

On the average, the water depth of this reservoir is approximately 90 meters deep.⁶

D) Overflow Spillway

This spillway, for regulating the water stock in the reservoir, is located at XE 668820, (Pei-chieh-tzu Kou, K'uan-tien Hsien, An-tung Sheng). This water-gate is opened in case there is an excessive water reserve or when there is some work to be done on the dam. Through this water-gate, the water flows down a stream, via XE 633798, (K'uan-tien Hsien, An-tung Sheng), and finally to go back into the Yalu river.

E) Log Chute

This tunnel, located at the right end of the dam at XE 663804, is used as a passage way for log rafts. The water-gate of this log chute is opened and closed electrically.

Evacuated or Bombed Out Facilities3. Removal by the Soviet Union

The Soviet Union had shipped out three (3) generators by 1947, and only four (4) generators were in operation as of 1951. During the period of January - May 1955, there were only two (2) generators left.⁷

4. Bomb Damage

The Sup'ung Hydro-Electric Power Plant was heavily bombed in the spring of 1953. Following are the status of damages inflicted at that time:

A) Dam

This bombing was not aimed at destroying the whole dam.⁸ Approximately 20 - 30 bombs hit the central part of the cushion of the dam, and two (2) bombs hit the top of the dam. The bomb craters, left on the dam as a result of this bombing, were each approximately five (5) meters in diameter and 1 - 2 meters deep. To the dam as a whole, however, these were nothing but minor damages.⁹

B) Generator Building

This generator building received the heaviest concentration of bombing in the spring of 1953. The object of this bombing was to demolish the structure of the generator building, generators, and turbines. As a result of the bombing, approximately three fourths of the roof of this building was destroyed, and one half of the building structure was demolished. Only a few bombs, however, penetrated the roof and exploded inside the building, thus causing only slight damage to one 100,000 KW transformer. Generators and turbines were covered with sand at that time. And the above transformer was also hidden by camouflage.¹⁰

C) Power Distribution House

This building did not suffer much bombing, thus it sustained few damages.

5. War-Time Status of Power Production

During the war, two (2) generators were in operation, maintaining an average production rate of 200,000 KW. Power production was in a state of confusion for nine (9) months following the large-scale bombing in the spring of 1953. One (1) generator was back in operation soon after the bombing.¹¹

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Work on the Sup'ung-Electric Power Plant is included in the People's Economic Three-Year Program (1954 - 1956), and it is to be also included in the next People's Economic Five-Year Program. This is the largest and the costliest of all rehabilitation projects undertaken in North Korea. A sum of 1.8 billion Won of the one (1) billion-rouble aid fund from the Soviet Union, is allocated for this reconstruction work, to be spent during the three (3) years of the present economic program. The major items of the current reconstruction project are 1) rehabilitation of generation and distribution facilities, 2) dam reinforcement, and 3) installation of 100,000 KW generators. More detailed description of these tasks given below:

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The object of this work is to fill up the hollows (as a result of water pressure) in the dam, and to add to the thickness of the dam. That is, the dam is to be thickened by giving it an addition layer of ferro-concrete, to such an extent that the cushion angle is decreased to 45 degrees¹³ from the original 75 degrees. (See cross-sectional drawing). This task requires a tremendous amount of cement and labor. The work load of this reinforcement project constitutes approximately 80 percent of the total rehabilitation of the Sup'ung Hydro-Electric Power Plant. During the course of this reinforcement work, the water of the reservoir will not be let out by the dam, but it will be let out through the everflow spillway located in Chinese territory. (See drawing of the Sup'ung Power Plant). Belt conveyor facilities to transport the large quantity of cement required for this job will also be installed. This is one of the basic works needed for the reinforcement work. Underground belt conveyors used by the Japanese at the time of the construction of this power plant are now to be rehabilitated. (See the drawing of the Sup'ung Power Plant).

9. Plan to Install New Generators

Three (3) 100,000 KW Russian generators are to be newly installed, so as to increase the generation capacity to 600,000 kilowatts.

Present Status of the Work

10. Rehabilitation of Generation and Distribution Facilities

A) Generator Building

The rehabilitation of this building was started right after the armistice, and it had been completed prior to 10 May 1955. (It is not known exactly when the work on this building was completed.) This one-story ferro-concrete building, with gray cement walls and a cement roof, is approximately 150 meters long, 30 meters wide, and eight (8) meters high. The windows of this building are so arranged that the building appears to be a two-story building, from the exterior.

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The work on this building was also started immediately after the armistice, and it too was completed prior to 10 May 1955. This is two-story ferro-concrete building, approximately 40 meters long, eight (8) meters wide, and six (6) meters high, with marble-lined interior walls.

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Rehabilitation work on generating facilities such as generators and turbines were also started right after the armistice. As of 1955, two (2) 100,000 KW generators (60 cycles) and two (2) cranes were in operation. Assembling work on a 100,000 KW generator was completed on 15 May 1955. With its test run having been made on or about 20 May 1955, this generator was to start generating as of 1 October 1955.¹⁵ The 100,000 KW [] transformer indicated on the attached plane drawing are each approximately seven (7) meters high and nine (9) meters in diameter at the base. They are six (6) meters apart.

25X1

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Conclusion

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16.

25X1

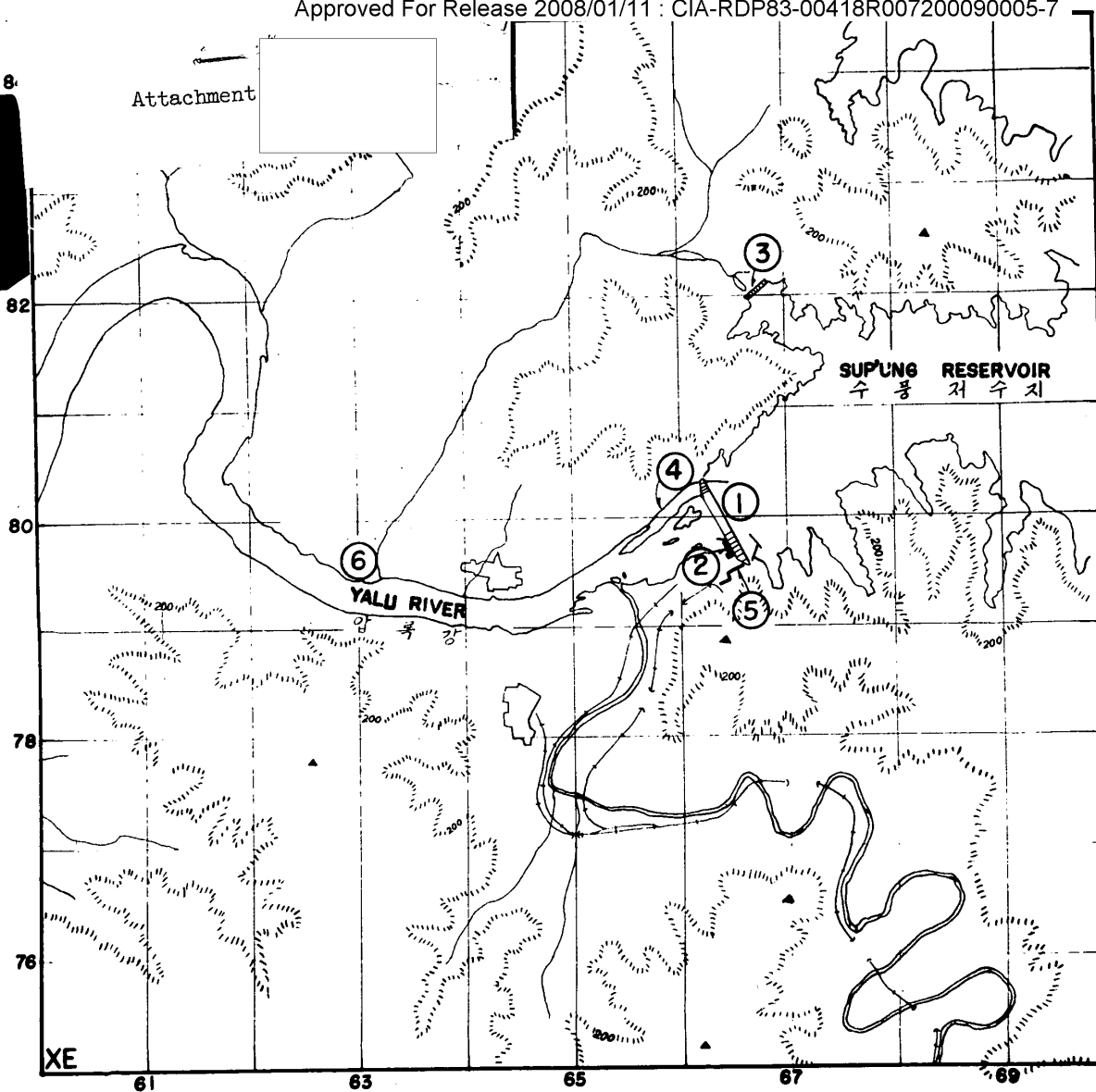
17. Comment: [redacted]

25X1

[redacted] It appears that the total length of the belt conveyor is 500 meters, while its underground portion is 400 meters.

25X1

Attachment



25X1

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This ferro-concrete dam, located at XE 6680, is 999 meters long, approximately 120 meters high, and approximately ten (10) meters wide at the top. The cushion or front of this dam is 75 degrees, while the upstream angle is 90 degrees.² Extending through the entire length of the dam, are three (3) inspection galleries, approximately four (4) meters wide and two (2) meters high, and approximately 20 meters apart vertically. (These inspection galleries are for checking cracks in the structure of the dam. Seven (7) water control points, which regulate the water supply to the turbines inside the generator building, are installed at intervals of 14 meters (approximate) on the top left side of (Korean side) of the dam. These water control points are equipped with cement concrete buildings, each approximately three (3) meters long, wide, and high, with a wooden door. Iron-gate spillways, each approximately seven (7) meters long and four (4) meters wide, are installed side by side along the (Manchurian side) (approximately 700⁴ meters long) top right side of the dam. Usually, water flows through these spillways. When the water pressure is low, however, the spillways are shut, so as to increase the water reserve and, consequently, the water pressure. Electrical devices are used to open and close these iron water-gates.

B) Distribution of Power and Power Distribution Facilities

The generator building is located at XE 664798, right below the water control points. There were originally seven (7)⁵ generators in this generator building. With three (3) of them having been shipped out by the Soviet forces, however, there were only four (4) generators left in this building as of the summer of 1947. Hanging from the ceiling of this generator building, there are two (2) 500-ton cranes, which are operated electrically, to move generators. A power distribution station is located approximately 20 - 30 meters southwest of the generator building.

C) Reservoir

On the average, the water depth of this reservoir is approximately 90 meters deep.⁶

D) Overflow Spillway

This spillway, for regulating the water stock in the reservoir, is located at XE 668820, (Pei-chieh-tzu Kou, K'uan-tien Hsien, An-tung Sheng). This water-gate is opened in case there is an excessive water reserve or when there is some work to be done on the dam. Through this water-gate, the water flows down a stream, via XE 633798, (K'uan-tien Hsien, An-tung Sheng), and finally to go back into the Yalu river.

E) Log Chute

This tunnel, located at the right end of the dam at XE 663804, is used as a passage way for log rafts. The water-gate of this log chute is opened and closed electrically.

Evacuated or Bombed Out Facilities3. Removal by the Soviet Union

The Soviet Union had shipped out three (3) generators by 1947, and only four (4) generators were in operation as of 1951. During the period of January - May 1955, there were only two (2) generators left.⁷

4. Bomb Damage

The Sup'ung Hydro-Electric Power Plant was heavily bombed in the spring of 1953. Following are the status of damages inflicted at that time:

A) Dam

This bombing was not aimed at destroying the whole dam.⁸ Approximately 20 - 30 bombs hit the central part of the cushion of the dam, and two (2) bombs hit the top of the dam. The bomb craters, left on the dam as a result of this bombing, were each approximately five (5) meters in diameter and 1 - 2 meters deep. To the dam as a whole, however, these were nothing but minor damages.⁹

B) Generator Building

This generator building received the heaviest concentration of bombing in the spring of 1953. The object of this bombing was to demolish the structure of the generator building, generators, and turbines. As a result of the bombing, approximately three fourths of the roof of this building was destroyed, and one half of the building structure was demolished. Only a few bombs, however, penetrated the roof and exploded inside the building, thus causing only slight damage to one 100,000 KW transformer. Generators and turbines were covered with sand at that time. And the above transformer was also hidden by camouflage.¹⁰

C) Power Distribution House

This building did not suffer much bombing, thus it sustained few damages.

5. War-Time Status of Power Production

During the war, two (2) generators were in operation, maintaining an average production rate of 200,000 KW. Power production was in a state of confusion for nine (9) months following the large-scale bombing in the spring of 1953. One (1) generator was back in operation soon after the bombing.¹¹

Rehabilitation & Reinforcement Work Plan6. Scale of Work Plan

Work on the Sup'ung-Electric Power Plant is included in the People's Economic Three-Year Program (1954 - 1956), and it is to be also included in the next People's Economic Five-Year Program. This is the largest and the costliest of all rehabilitation projects undertaken in North Korea. A sum of 1.8 billion Wŏn of the one (1) billion-rouble aid fund from the Soviet Union, is allocated for this reconstruction work, to be spent during the three (3) years of the present economic program. The major items of the current reconstruction project are 1) rehabilitation of generation and distribution facilities, 2) dam reinforcement, and 3) installation of 100,000 KW generators. More detailed description of these tasks given below:

7. Rehabilitation of Generation & Distribution Facilities

The object of this task is to completely rehabilitate the generator building, power distribution station, generators, and their accessory equipment, as well as to install a 100,000 KW Russian generator and incidental equipment.

8. Dam Reinforcement Work Plan ¹²

The object of this work is to fill up the hollows (as a result of water pressure) in the dam, and to add to the thickness of the dam. That is, the dam is to be thickened by giving it an addition layer of ferro-concrete, to such an extent that the cushion angle is decreased to 45 degrees¹³ from the original 75 degrees. (See cross-sectional drawing). This task requires a tremendous amount of cement and labor. The work load of this reinforcement project constitutes approximately 80 percent of the total rehabilitation of the Sup'ung Hydro-Electric Power Plant. During the course of this reinforcement work, the water of the reservoir will not be let out by the dam, but it will be let out through the everflow spillway located in Chinese territory. (See drawing of the Sup'ung Power Plant). Belt conveyor facilities to transport the large quantity of cement required for this job will also be installed. This is one of the basic works needed for the reinforcement work. Underground belt conveyors used by the Japanese at the time of the construction of this power plant are now to be rehabilitated. (See the drawing of the Sup'ung Power Plant).

9. Plan to Install New Generators

Three (3) 100,000 KW Russian generators are to be newly installed, so as to increase the generation capacity to 600,000 kilowatts.

Present Status of the Work

10. Rehabilitation of Generation and Distribution Facilities

A) Generator Building

The rehabilitation of this building was started right after the armistice, and it had been completed prior to 10 May 1955. (It is not known exactly when the work on this building was completed.) This one-story ferro-concrete building, with gray cement walls and a cement roof, is approximately 150 meters long, 30 meters wide, and eight (8) meters high. The windows of this building are so arranged that the building appears to be a two-story building, from the exterior.

B) Power Distribution Station Building

The work on this building was also started immediately after the armistice, and it too was completed prior to 10 May 1955. This is two-story ferro-concrete building, approximately 40 meters long, eight (8) meters wide, and six (6) meters high, with marble-lined interior walls.

C) Generating Equipment

Rehabilitation work on generating facilities such as generators and turbines were also started right after the armistice. As of 1955, two (2) 100,000 KW generators (60 cycles) and two (2) cranes were in operation. Assembling work on a 100,000 KW generator was completed on 15 May 1955. With its test run having been made on or about 20 May 1955, this generator was to start generating as of 1 October 1955.¹⁵ The 100,000 KW [] transformer indicated on the attached plane drawing are each approximately seven (7) meters high and nine (9) meters in diameter at the base. They are six (6) meters apart.

25X1

D) Power Distribution Facilities

All facilities required for distributing power, such as switchboards, poles, and wires had been completely rehabilitated as of 10 May 1955.

11. Dam Reinforcement

There are three (3) different phases in this dam reinforcement project. They are; 1) rehabilitation of underground conveyor facilities to transport cement, gravel, and other materials from the railroad unloading point to the cement mixing area; 2) installation of aerial conveyor facilities to transport mixed cement materials from the mixing point to the dam work site; and 3) the work of increasing the thickness of the dam. The work on the underground conveyor facilities had been completed as of 10 May 1955, and the work on the aerial conveyor facilities was to be completed by the end of 1955. The actual reinforcement of the dam is to start in 1956. Following are the specification of the already completed work on the underground conveyor facilities:

- A) This was actually a rehabilitation job of underground conveyor facilities used by the Japanese at the time this power plant was established. The 15th Battalion,¹⁶ (583rd Army Unit, Supreme Headquarters, People's Armed Forces) undertook this rehabilitation work, and finished it during the period of 1 January - 10 May 1955.
- B) This belt conveyor system is established within a curved cement tunnel, approximately 400 meters long, five (5) meters wide, and three (3) meters high, extending from XE 663794 (a railroad track runs by this point) to XE 665795 (the future cement mixing ground).
- C) Belt conveyors are motor-powered. Rubber strips used in making belts are each approximately 1.5 meters wide and two (2) centimeters thick. One (1) conveyor is approximately 50 - 150 meters long.¹⁷ Several such conveyors make up the conveyor facilities. Cement and gravel required for the reinforcement work are transported automatically by this conveyor from the railroad unloading point to the cement mixing ground.

12. Installation of New 100,000 KW Generators

This work has not yet been started, but is to be started in 1956. Three (3) Russian 50 cycle generators will be installed. When these generators are installed, the maximum production capacity of the Sup'ung Hydro-Electric Power Station will reach 600,000 kilowatts. The scheduled date of the completion of this work is unknown.

Conclusion

Due to dismantling by the Soviet forces and damages caused by bombings, the Sup'ung Hydro-Electric Power Plant was producing only 200,000 kilowatts right after the armistice. Prior to 1955, the power plant had already recovered from the destruction wrought by the bombings, and a 100,000 KW Soviet generator was installed in May 1955. Three (3) new 100,000 KW Russian generators are to be installed in 1956, to attain the production capacity of 600,000 kilowatts. In the meantime, the reinforcement of the dam is progressing. The work on underground conveyor facilities, to transport the enormous amount of materials required for this work from the railroad unloading point to the cement mixing point, was completed on 10 May 1955. Now only the work on the aerial conveyor facilities and the actual reinforcement work of the dam remain to be done.

Guide to Cross-Sectional Drawing

- 1. Concrete dam
 - a. Inspection gallery

2. Planned cement layer
3. Water in the reservoir
4. Ground
5. Underground base of dam
6. Rock

Guide to the Frontal View Drawing

1. Generator building
 - a. Transformer
2. Power distribution station
3. Concrete dam
4. Water control point
5. Spillway
6. Underground belt conveyor
7. Cement mixing point (to be established)
8. Belt conveyor (to be established)
9. Log chute

Guide to Area Drawing

1. Dam
2. Generator building
3. Overflow spillway
4. Log chute
5. Underground belt conveyor
6. Juncture point of the overflow spillway water route and the Yalu river.

1. Comment: Sup'ung-dong, on the Korean side edge of the Yalu river, is located approximately 36 miles northeast of Sinuiju and approximately 70 miles northwest of Sakchu. Most of the residents of this village are engaged in work related to the Sup'ung Power Plant. This village (Tong) has probably been renamed Sup'ung-gu (Sup'ung-District) as a result of the reorganization of administrative district.

2. Comment: According to available information, this dam is 900 meters *long*, *139 meters* high, a little less than eight (8) meters wide at the top, and 123 meters wide (maximum) at the base. Its left base angle is approximately 55 degrees. Thus there is a wide difference in measurements between this data and that given by this Source.

3. The exact name of this establishment is unknown. It shall be called the water control point hereinafter.

4. Comment: According to available information, this is 390 meters long, and there are 26 water-gates, each approximately 12 meters wide. The Source of this report, however, states that there are 100 water-gates, each seven (7) meters wide.

25X1

6. Comment: Accordint to available information, this reservoir is approximately 128 square miles in area. This reservoir is 93 meters deep at the lowest point, showing a difference of 30 meters according to seasons.

7. Comment: According to reliable available information, the Soviet Union shipped out generators No. 3 and No. 4, and turbines No. 3, 4, and 5. The four (4) generators in operation [redacted] 25X1
[redacted] are believed to be generators No. 1, 25X1
2, 6, and 7. The two (2) generators remaining at the power plant in 1955 were No. 1 and 2. [redacted] 25X1
[redacted] 25X1
8. [redacted]
9. [redacted]
10. [redacted]
11. [redacted]
12. Source Comment: This dam reinforcement work is known as the "Eiple" (phonetic) work. The word "eiple" may have been derived from the Russian word, "ubo" (phonetic) meaning "reinforcing".
13. Comment: As was explained in Comment No. 2, the cushion angle of this dam is now approximately 55 degrees. [redacted] 25X1
[redacted] 25X1
14. Comment: These are No. 1 and No. 3 generators. At the time of the construction of this power plant, the generators were numbered No. 1, No. 2 and so on, starting with the one located most closely to the Korean side. But the generators indicated on the plane drawing attached to this report are numbered from the opposite direction.
15. Comment: According to available information, the number of the Russian generator is six (6). An article of the Labor Press (Nodong Sinmun) confirms this. The Labor News dated 26 May 1955 announced that assembling work of No. 6 generator of the Sup'ung Power Plant had been completed. The same newspaper dated 11 July 1955, carried an article describing a ceremony marking the beginning of the operation of the No. 6 generator.
16. [redacted] 25X1
17. Comment: [redacted] 25X1
[redacted] It appears that 25X1
the total length of the belt conveyor is 500 meters, while its underground portion is 400 meters.

Attachment

OF SUP'UNG DAM
면도

25X1

1. Concrete Dam (콘크리트 댐)
- a. Inspection Gallery (점검용 굴)
2. Part to be thickened (보강될 부분)
3. Water in the Reservoir (저수지 내의 물)
4. Earth (흙)
5. Base of Dam, Buried in earth (흙에 매몰된 부분)
6. Rock (암석)

